

Commonwealth of Kentucky
Division for Air Quality
RESPONSE TO COMMENTS

ON THE TITLE V DRAFT PERMIT V-05-079

Kentucky Solite Corporation

P.O. Box 39

Brooks, KY 40109

September 22, 2006

Timothy J. Rust, Reviewer

SOURCE I.D. #: 21-029-00002

SOURCE A.I. #: 454

ACTIVITY #: APE20050002

SOURCE DESCRIPTION:

Kentucky Solite Corporation submitted an operating permit application that was received by the Division for Air Quality (DAQ) on January 30, 2006. The facility currently operates under two permits, O-85-056-Revision 2 and S-94-101, which will be consolidated into a source-wide Title V permit. The facility operates two Light Weight Aggregate Rotary Kilns, Emission Unit (EU) 02 and EU 03, primarily fired by coal with secondary fuels including natural gas, fuel oil, and both on-specification and off-specification used oil. Additionally, individual plant emission points are grouped together in the emission unit list below including Raw Material Handling and Processing (EU 05), Finished Product Handling and Processing (EU 06), Lime Handling (EU 07), Haul Road and Yard (EU 08), Coal Handling and Processing (EU 09), and Light Aggregate Kiln Dust (LAKD) Storage and Handling (EU 11 & EU 12). Each of these groups includes primary crushers, secondary crushers, vibrating screens, conveyors, storage bins, silos, stockpiles, and miscellaneous equipment specific to the individual process.

The facility produces lightweight aggregate products from raw Shale, Clay, Slate, and/or Recycled Process Particulate Matter. Raw material is mined from an onsite quarry or brought onsite via rail or truck. It is introduced into the process through primary crushers and screened for size before being separated and conveyed to raw material storage silos or to the bulk fines storage bin. The bulk fines can either be sold straight to the customer, transferred to the extruder bin where it is stored then mixed with LAKD (recycled matter) and sent to the Kilns when needed, or transferred to the quarry as backfill. The Kilns are fired to a temperature in excess of 1800 °F then the raw material is added from the silos or extruder. The material is expanded into clinker by pyro-processing whereby the raw material liquefies and its carbonaceous compounds form gas bubbles that bloat and expand the material driving off moisture and VOCs. The clinker is cooled, then crushed and sent to the clinker stockpiles. Finish product is produced to customer specifications through secondary crushing, screening, and specialty product mixing. Finished products are shipped to customers via truck or rail while out-of-spec material is backfilled to the quarry or recycled back into raw material. Emissions from the kilns are controlled primarily through wet scrubbers. Secondary controls are also available through baghouses with optional lime injection. Dust from the baghouses can be recycled into raw material or backfilled to the quarry along with the scrubber sludge. The facility is a major source for sulfur dioxide (SO₂), particulate matter (PM₁₀), and nitrogen oxides (NO_x).

PUBLIC AND U.S. EPA REVIEW:

On July 19, 2006, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Pioneer News* in Bullitt County, Kentucky. The public comment period expired 30 days from the date of publication.

Comment received

Comments were received from Kentucky Solite Corporation on August 17, 2006. Attachment A to this document lists the comments received and the Division's response to each comment. Attachment B contains the actual correspondence received from Kentucky Solite Corporation for specific reference. Minor changes were made to the permit as a result of the comments received, however, in no case were any emissions standards, or any monitoring, recordkeeping or reporting requirements relaxed. Please see Attachment A for a detailed explanation of the changes made to the permit. The U.S. EPA has 45 days to comment on this proposed permit.

ATTACHMENT A

Response to Comments

Comments on Kentucky Solite Corporation's Bullitt Co. Lightweight Aggregate Plant Draft Title V Air Quality Permit submitted by Albert Galliano, Environmental Affairs Manager.

1. Comments were received covering several permit sections regarding the emissions limitations, specific monitoring requirements, and specific recordkeeping requirements for the Kiln 02 and Kiln 03 sulfur content of the as-received coal shipments.

Comment: Coal shipments are not received each day. However, the facility does receive several loads of coal weekly from its suppliers. The coal from the suppliers is uniform and Kentucky Solite is furnished with a representative Laboratory Analysis of the coal. Coal analyses are received several times throughout the week and are maintained as part of the facility's records. Kentucky Solite proposes to eliminate the condition in the permit to perform a calculation of the daily sulfur content. Instead, it will use the representative Laboratory Analysis to ensure that the coal does not exceed 2.5 lbs/mmBtu as received and to calculate the three-month rolling averages and twelve-month averages.

Division's response: Comment acknowledged, the following changes have been made to the permit to remove "daily" references and allow for vendor supplied fuel analysis to determine compliance with the fuel sulfur limitation requirements:

Section B

Emission Unit 02, Kiln 2; and Emission Unit 03, Kiln 3

2. Emissions Limitations

c. ...The permittee may assure compliance with these sulfur content limitations by *using approved EPA or ASTM test methods or vendor certified fuel analysis to determine the fuel sulfur content, and by calculating both a three-month rolling average and a twelve-month rolling average from the as- received fuel records and fuel analysis.*

4. Specific Monitoring Requirements

e. The permittee shall monitor *the sulfur content of each shipment of fuel oil and used oil and the sulfur and heat content of each shipment of coal received. The permittee may use approved EPA or ASTM test methods or fuel supplier certifications to meet this requirement.*

5. Specific Record Keeping Requirements

c. The permittee shall maintain a log of *the sulfur content of each shipment of fuel oil and used oil and the sulfur and heat content of each shipment of coal used as fuel. The permittee may use approved EPA or ASTM test methods or fuel supplier certifications to meet this requirement.*

2. Comments were received covering several permit sections regarding qualitative visual observations and Method 9 reading frequencies required in the specific monitoring requirements and specific recordkeeping requirements for Emission Unit 02, Kiln 02; Emission Unit 03, Kiln 03; Emission Unit 04, Clinker Cooler; Emission Unit 09, Coal Handling; Emission Units 05B & 06B, Equipment subject to New Source Performance Standards (NSPS); and Emission Units 07, 11 & 12, Storage Silos & Filter Receiver.

Comment: The Kentucky Solite facility is designed and operated to minimize emissions. The requirements for the facility to perform daily qualitative visual observations of the opacity ...(and monthly/quarterly Method 9 observations depending of section sited)... are onerous. Other conditions (i.e. 5.b., 7.a., 7.b., Section E, etc.) in the permit require the proper operation of the control devices. Furthermore, records regarding all inspections, routine and non-routine maintenance and the unit operation of the control equipment shall be maintained. Kentucky Solite understands that if visible emissions are seen it shall initiate an inspection of the unit and if necessary, make repairs or adjustments to the emission control process. This would apply even after a qualitative visual observation of the opacity of emissions for the unit is performed, thus recording opacity observations to this device is overburdening and unnecessary....

For Emission Unit 02, 03 and 04, Kentucky Solite proposes to perform a Method 9 observation once every six month on the control device in operation and report the findings in the semi-annual report. For Emission Unit 09, Kentucky Solite will take reasonable precaution to prevent particulate matter from becoming airborne.

For Emission Units 05B, 06B, 07, 11, & 12, Kentucky Solite proposes to perform this test (Method 9 observations) every six months and report the results in the semi-annual report.

Division's response: The Division does not concur that the visible emission monitoring and record keeping requirements throughout the entire permit, as conditioned, are onerous, overburdening, or unnecessary. "The Cabinet Provisions and Procedures for Issuing Title V Permits" states in Section III. Monitoring Requirements, "2) If the applicable requirement does not require periodic testing or monitoring, the permit shall contain periodic monitoring sufficient to yield reliable data from the relevant time period representative of the source's compliance with the permit." Recently issued Title V permits for existing comparable industry major sources in Kentucky including Gallatin Materials (V-06-018) and Carmeuse Lime & Stone (V-05-003 & V-05-004) have identical permit terms and conditions for visible emission monitoring and recordkeeping that are equally stringent as Kentucky Solite's. The Division believes that the record keeping and monitoring requirements in the draft permit, as conditioned, are sufficient to represent the source's compliance status with visible emissions and will not be changed.

3. Comments were received for several sections regarding the use of mobile equipment in the Raw Material, Finished Product and Coal Handling and Processing Operations.

Comment: Kentucky Solite may use any of its mobile equipment as needed to continue its operation in the...(Raw Material Processing Area/ Finished Product Processing Area/ Coal Handling Area)...The possible scenarios are too numerous to list. If equipment in this area requires repair, the mobile crusher, mobile hoppers and/or mobile stacking conveyors may be used as needed to continue operations. Kentucky Solite will take steps necessary to control emissions from these equipments.

Division's response: Comment acknowledged, the Division does not intend to restrict the use of mobile equipment within the operational processes at Kentucky Solite. The intent of listing the mobile equipment in the permit in each section where applicable, is to account for their emissions on the Emissions Inventory Survey (EIS) and to properly apply applicable regulations depending upon their respective use. To help clarify these intents, the permit has been rearranged to list all the mobile equipment in each respective permit section as proposed by Kentucky Solite. These include mobile equipment used in EU 05B-Raw Material Handling and Processing; EU 06B-Finished Product Handling and Processing; and EU 09-Coal Handling and Processing. Additionally, 401 KAR 60:670, incorporating by reference 40 CFR 60, Subpart OOO applies to EU 05B and EU 06B while 401 KAR 63:010, Fugitive emissions applies to EU 09 due to coal processing being voluntarily limited to not more than 200 tons per day.

4. A comment was received on the Fugitive Emissions Section of permit, 2. Emission limitations, e. (1) requiring open bodied trucks to be covered outside company property and e. (2) prohibiting deposition of transported material on paved streets or roadways.

Comment: Kentucky Solite does not operate open bodied trucks outside company property. All outside trucking is through a third party and not affiliated with Kentucky Solite. Please remove this condition from the permit.

Division's response: Comment acknowledged, however, trucking ownership notwithstanding, no operating condition limitation exists in the air permit to preclude Kentucky Solite owned open bodied trucks from operating outside company property. Irrespective of whether Kentucky Solite chooses to transport it's own final product or allows customers to arrange their own transport does not remove the obligation to comply with all provisions of 401 KAR 63:010, Fugitive Emissions. Inclusion of 401 KAR 63:010 Section 4 in the permit does not obligate Kentucky Solite to any regulatory requirements that are burdensome or outside the scope of current or future potential operational considerations. This section will not be removed from the permit.

5. A comment was received on the NSPS Section of the permit, 3. Testing Requirements, c. requiring an initial compliance demonstration for the building enclosure housing the screens FU1, FU2, and FU3 using EPA Method 22 and subsequently Method 9 on building sides where visible emissions are observed for one minute or more during the respective fifteen minute observation.

Comment: Kentucky Solite requests the addition of the following: The duration of the Method 9 observation, if needed shall be a minimum of 1 hour (ten 6-minute averages) in length.

Division's response: Comment acknowledged, change made.

6. A comment was received on the NSPS Section of the permit, 4. Monitoring Requirements, c. requiring that once per calendar quarter for the building enclosure housing the screens FU1, FU2, and FU3, fugitive emissions shall be determined using EPA Method 22 and subsequently Method 9 on building sides where visible emissions are observed for one minute or more during the respective fifteen minute observation.

Comment: Kentucky Solite proposes to perform this test every six months and requests the addition of the following: The duration of the Method 9 observations may include a minimum of one set of six-minute average data.

Division's response: The permit has been changed to include the duration for the Method 9 observations. The frequency of the tests will not be changed, please see response to comment 2.

7. A comment was received on the NSPS Section of the permit,

6. Specific Reporting Requirements:

- a. The permittee shall notify the Division when each or all of the mobile equipment is removed from the plant site at least 15 days prior to removal.
- b. The permittee shall notify the Division when each or all of the mobile equipment, previously removed from the plant site, is returned to the plant site at least 15 days prior to initial restart.

Comment: Kentucky Solite requests the removal of this condition. Mobile equipment is intended to be mobile and if needed should be able to move in and out of the plant site without the restrictions of a 15 day notice.

Division's response: The mobile equipment listed in this permit is authorized for use within the plant site only, please see answer to comment 3 above. This equipment is not permitted to be portable for use by Kentucky Solite between source locations within the Commonwealth of Kentucky, Jefferson County notwithstanding. Permanent removal of any previously permitted mobile equipment from the plant site or bringing unpermitted mobile equipment on site for use is considered a permit revision pursuant to 401 KAR 50:020 Section 18, Section 502(b)10 Changes. These provisions require written notification be made at least seven (7) working prior to making the change. Reporting requirements in the General Provisions section in the permit cover emergency situations that may necessitate additional mobile equipment use. The permit has been changed as follows:

6. Specific Reporting Requirements:

- a. Pursuant to 401 KAR 50:020 Section 18, the permittee shall notify the Division in writing when any mobile equipment is permanently removed from the plant site or new mobile equipment is added to the plant site at least seven (7) business days prior to the change.
- b. deleted section.

The Following are Administrative Changes for Specific Equipment Listed in Permit

Emission Unit 05A Raw Material Handling and Processing

8. (SC1) Enclosed Screw Conveyor...comment, SC1 was constructed in 1994.

Division's response: Comment acknowledged, change made, relocated to EU 05B Section of permit.

9. (RS4) Raw Material Fines Extruder Storage Bin...comment, RS4 was constructed in 1994.

Division's response: Comment acknowledged, change made, relocated to EU 05B Section of permit.

Emission Unit 06A Finish Product Processing and Handling

10. (FB1)...(from Cooler FP4 and FP5 to FB2)...comment, Please change to include the mobile crusher and proposed crusher: (from Coolers FP4 and FP5, MC1, FC3 to FB2)

Division's response: Comment acknowledged, change made.

11. (FB2)...(From Conveyor FB1 and Crusher FC3 to Clinker Surge Pile #1)...comment, Please change to remove FC3 which will be located over FB1.

Division's response: Comment acknowledged, change made.

12. (-) Front-End Loader (from Mobile Crusher MC1 to Clinker Surge Piles...)...comment, The facility may elect to utilize one of its mobile conveyors in conjunction with the mobile crusher. Please change to add mobile conveyors: (from Mobile Crusher MC1 to Mobile Conveyor MB3, MB4, MB5, MB6 and/or MB7 to clinker Surge Piles...).

Division's response: Comment acknowledged, change made.

13. (FS1) Clinker Surge Stockpile #1...(thru)...#5...Control: Water Sprays (Moist Material) comment for all five surge piles: This material may already be moist and additional water may affect quality. Therefore, Kentucky Solite proposes the following change: Control: Moist Material (Water Spray if needed).

Division's response: Comments acknowledged, changes made.

14. (FB3)...(from Clinker Surge Pile #1 and Mobile Hopper MS1 to Screening Unit FU1)...comment: Please add MS2: (from Clinker Surge Pile #1, Mobile Hoppers MS1 or MS2 to Screening Unit FU1).

Division's response: Comment acknowledged, change made.

15. (FC1)...(Feeds Belt Conveyor FB4)...comment: Please add FU1: (from FU1, Feeds Belt Conveyor FB4).

Division's response: Comment acknowledged, change made.

16. (FC2)...(Feeds Belt Conveyor FB5)...comment: Please add FU2 and FU3: (From FU2 and FU3, Feeds Belt Conveyor FB5).

Division's response: Comment acknowledged, change made.

17. (FB4)...(From Crusher FC1, Mobile Hopper MS1, and Conveyor FB5 to Screening Units FU2 and FU3)...comment: Please add MS2: (From Crusher FC1, Mobile Hopper MS1 or MS2, and Conveyor FB5 to Screening Units FU2 and FU3)

Division's response: Comment acknowledged, change made.

18. (FB5)...(From Crusher FC2, to Conveyor FB4)...comment: Please add MS1 and MS2: (From Crusher FC2, Mobile Hoppers MS1 or MS2, to Conveyor FB4)

Division's response: Comment acknowledged, change made.

19. (FB9) & (FB10)...30" Belt Conveyor...Control: Water Sprays (Moist Material)...comment: This material may already be moist and additional water may affect quality. Therefore, Kentucky Solite Proposes the following change: Control: Moist Material (Water Spray if needed)

Division's response: Comments acknowledged, changes made.

20. (FM1) Finish Product (Specialty) Mobile Mixer Units...comment: Kentucky Solite utilizes several Mobile Conveyors and a variety of product piles in conjunction with the Mobile Mixer Units. Additionally, Kentucky Solite utilizes 2 specialty mixers, please add: (FM2) Finish Product (Specialty) Mobile Mixer Units, Maximum Rated Capacity: 50 ton/hour, Control Moist Material

Division's response: Comments acknowledged, changes made.

Emission Unit 06C Alternate Finish Product Processing and Handling

21. (RS3)...(Feeds Screw Conveyor SC1 and Truck Loadout RD1...)...comment: The material handled during the Alternate Finish Product Process will not feed Screw Conveyor SC1. Please remove its reference in this scenario: (Feeds Truck Loadout RD1)(Alternate Finish Material Process)

Division's response: Comments acknowledged, changes made.

22. (RD1)...(to Quarry or Customer)...comment: The materials handled during the Alternate Finish Product Process will not go to the quarry or directly to customers. Instead it will be transferred to the finish product area for further processing if needed. Please make the following change in this scenario: (to Stockpile, Finish Process Area)(Alternate Finish Material Process)

Division's response: Comments acknowledged, changes made.

23. (RB4)...(from Screening Unit RU1 to Storage Silo RS1 and Belt Conveyor RB5)...comment: The materials handled during the Alternate Finish Product Process will not go to Storage Silo RS1. The material may be plowed off part way up the conveyor RB4 to a truck, front-end loader or stockpiles and transferred to the finish product area for further processing if needed. Please make the following change in this scenario: (from Screening Unit RU1 to Truck, Stockpiles or Front-End Loader)(Alternate Finish Material Process)

Division's response: Comments acknowledged, changes made.

Emission Unit 09 Coal Handling and Processing

24. (MC1) (Feeds to Belt Conveyor CB1)...comment: Please add CS1 and Stockpiles (Feeds Belt Conveyor CB1, Truck Dump CS1, Mobile Conveyors or Stockpiles)

Division's response: Comments acknowledged, changes made, (MC1) Mobile Crusher has been located in the permit to section EU 09 for mobile equipment used in Coal Handling and Processing. Please refer to Division's Response to Number 3 above.

25. (CP1) & (CP2) Raymond Coal Mill(s)...Control: Enclosed...comment: The coal mill(s) is an enclosed unit but is not an enclosure therefore is not considered a control. Please remove the reference to: Control: Enclosed

Division's response: Comments acknowledged, changes made.

Emission Unit 05B Raw Material Handling and Processing

26. (MC1)...(Feeds Belt Conveyor RB1)...comment: Please Change to: (Feeds Belt Conveyor RB1, RB2, RB4, RS5, PB1, PB2, stockpiles or Mobile Conveyors)

Division's response: Comments acknowledged, changes made. MC1, Mobile Scottsdale Crusher, has been located in the permit to EU 05B, for mobile equipment used in Raw Material Process and Handling. Please refer to the Division's Response to Number 3 above.

27. (MS1), (MS2), (MB4), (MB5), (MB6), & (MB7)...comment: Kentucky Solite may use its mobile equipment if needed in this area.

Division's response: Comments acknowledged, changes made. Please refer to the Division's Response to Number 3 above.

28. (SC1) & (RS4)...comment: These units were added in 1994.

Division's response: Comments acknowledged, changes made. Please refer to the Division's Response to Number 8 and 9 above.

29. (PE1) Extruder ...Control: Enclosed...comment: The control for this equipment is inaccurate. This are has a roof and back. It is open in the front and on both sides. Please change to: Control: Partial Enclosure

Division's response: Comments acknowledged, change made.

Emission Unit 06B Finish Product Processing and Handling

30. (FC3)...(Feeds Conveyor FB2)...comments: Please change to (Feeds Conveyor FB1)

Division's response: Comments acknowledged, change made.

31. (MC1)...(Feeds to Clinker Surge Pile #1)...comment: Please change to: (Feeds Mobile Conveyor, Stockpile or Conveyor FB1)

Division's response: Comments acknowledged, change made.

32. (MS1)...(Feeds Conveyors FB3, FB4, FB5 or Mobile Conveyors)...comment: Please change to (Feeds FB1, FB4 or FB5)

Division's response: Comments acknowledged, change made.

33. Comment: Please add: (MS2) Mobile Hopper (Feeds Conveyor FB1, FB4, FB5 or Conveyors)
Constructed: 1996, Control: Moist Material

Division's response: Comments acknowledged, change made.

34. (MB4), (MB5), (MB6), and (MB7)...(from Conveyor MB2 to Finish Piles)...Comments: please
Change to (from MC1, Conveyor MB2, MB3, MB4, MB5, MB6 and/or MB7 to Conveyor MB2,
MB3, MB4, MB6 and/or MB7, Finish Piles, Specialty Piles, FM1, AND FM2)

*Division's response: Comments acknowledged, changes made per each Conveyor as specifically
needed to account the differences listed in Kentucky Solite's comments.*

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.

ATTACHMENT B

Kentucky Solite Corporation's
Letter Received August 17, 2006
For Response to Comments